

DERWENT- 2002-455219

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WEEK:

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TITLE: Hydraulic binder for clarifier basins or channel linings  
comprises a latently hydraulic bulky blast furnace slag  
containing sulfate promoter and activating additives

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PRIORITY-DATA: 2000US-695447 (October 24, 2000)

PATENT-FAMILY:

PUB-NO PUB-DATE LANGUAGE

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APPLICATION-DATA:

PUB-NO APPL-DESCRIPTOR APPL-NO APPL-DATE

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CURRENT:

TYPE IPC DATE

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RELATED-ACC-NO: 2002-373768

ABSTRACTED-PUB-NO: CA 2324486 A1

BASIC-ABSTRACT:

NOVELTY - A hydraulic binder comprises a latently hydraulic bulky blast furnace slag, finely ground to in excess of 5000 cm<sup>2</sup>/g Blaine, containing a sulfate promoter and activating additives.

DESCRIPTION - The latently hydraulic bulky blast furnace slag has greater than 93% glassiness and contains (wt.%) silicon dioxide (SiO<sub>2</sub>) (34-40), calcium oxide (CaO) (34-37), aluminum oxide (Al<sub>2</sub>O<sub>3</sub>) (greater than 9), and (CaO+magnesium oxide)/(Al<sub>2</sub>O<sub>3</sub>+SiO<sub>2</sub>) (0.88-0.98).

USE - For clarifier basins, channel linings, clarifier plants, collection basins and building structures.

ADVANTAGE - The invention yields good products and has very low hydration heat.

EQUIVALENT-ABSTRACTS:

#### INORGANIC CHEMISTRY

Preferred Composition: The content (wt.%) of Al<sub>2</sub>O<sub>3</sub> in the blast furnace slag is at most 13 wt.%. The binder contains calcium sulfate (CaSO<sub>4</sub>) (12-20) recovered by settling from a flue gas desulfurization or a hemihydrate or their anhydrite and/or natural CaSO<sub>4</sub>. It also contains hot dust, hydrated lime or burned lime (0.5-3). It also contains alkali sulfate and/or alkali carbonate (up to 3).

Preferred Component: The alkali sulfate or alkali carbonate is potassium sulfate, sodium sulfate, sodium carbonate, lithium carbonate or potassium sulfate.

Preferred Property: The bulky blast furnace slag has a Blaine fineness of 5000-6500 cm<sup>2</sup>/g.

#### CERAMICS AND GLASS

Preferred Composition: The binder contains (wt.%) Portland cement clinker or Portland cement (0.5-5).

#### ORGANIC CHEMISTRY

Preferred Composition: The binder comprises calcium (Ca) salt of carboxylic acid (0.5-3). Preferred Component: The Ca salt of carboxylic acid is calcium acetate and/or calcium formate.

TITLE- HYDRAULIC BIND CLARIFY BASIN CHANNEL LINING COMPRISE LATENT  
TERMS: BULK BLAST FURNACE SLAG CONTAIN SULPHATE PROMOTE ACTIVATE  
ADDITIVE

DERWENT-CLASS: L02 M24

CPI-CODES: L02-B03; L02-C; M24-A07B;

SECONDARY-ACC-NO:

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